

REMARKS

Claims 1-44 are pending in the application. Claims 1-10 were rejected under 35 U.S.C. § 103 (a). Claims 11-31 were withdrawn.

Rejection Under 35 U.S.C. § 103 (a)

Claims 1-10 were rejected under 35 U.S.C. 103 (a) as being unpatentable over U. S. Patent Application Number 2002/0071387 issued to Horiguchi dated June 13, 2002 in view of U. S. Patent Application Number 2002/0186661 issued to Santiago dated December 12, 2002.

Applicant has avoided this ground of rejection for the following reasons.

First, applicant's claim 1, as amended, now recites,

"A method for resource bundling in a communication network, said method comprising the steps of:

a) receiving, at a network policer dedicated to a single user, a plurality of data flows having different class of service (CoS) priority levels, wherein said plurality of data flows comprise a plurality of data packets, said data flows associated with said single user having an allocated bandwidth;

b) processing said data flows by performing for each data packet of said plurality of data packets a prioritized conformance test to accept or reject said data packet thereby sharing said allocated bandwidth between said different CoS priority levels in a prioritized manner; and

c) responsive to said conformance test, further processing each said data packet and forwarding said processed data flows to the communications network."

The present invention is related to a policer. A policer, as is commonly known, is a rate limiting device, which is used by service providers to enforce a data rate on each incoming data flow or a group of flows. Known policers are, however, not designed to share the available bandwidth according to the service class.

The algorithm that is applied by a policer, and which is also described in the present application is known as the token bucket algorithm. It determines for each received packet, whether the packet can be accepted or needs to be rejected. This is

done by determining whether sufficient tokens ("credits") are available in the bucket. The algorithm hence applies a predetermined threshold of tokens to the bucket.

A policer is different from a queuing system, where the packets themselves are actually stored in a queue and read out at a constant output rate. The algorithm applied by such queuing systems is referred to as the leaky bucket algorithm. It leads to an averaging of the output rate and necessarily imposes a delay on the packets that corresponds to the buffer depth. A queuing system does not need to make accept/reject decisions on a per packet basis. It simply drops packets from the queue when its level reaches an upper threshold.

Horiguchi does not teach or suggest "receiving, at a network policer dedicated to a single user, a plurality of data flows having different class of service (CoS) priority levels". This is because Horiguchi discloses a relay unit that has a queue system which supports a plurality of independent queues and stores received packets according to their respective priorities. See paragraph 0049. The Examiner has equated the relay unit to a network policer. However, contrary to applicant's claim 1, the relay unit receives VPN traffic from multiple VPN users rather than being dedicated to a single user. See FIGs. 1 and 16. Thus, Horiguchi is missing the limitations of applicant's claim 1.

Second, Horiguchi does not teach or suggest "processing said data flows by performing for each data packet of said plurality of data packets a prioritized conformance test to accept or reject said data packet ... " either. This is because Horiguchi does not disclose "a prioritized conformance test" as recited by applicant's claim 1. Again, Horiguchi is missing the limitations of applicant's claim 1.

Third, applicant agrees that Santiago discloses a technique for prioritizing and policing communications packets using multiple levels of classification and metering. However, Santiago does not teach or suggest "receiving, at a network policer dedicated to a single user, a plurality of data flows having different class of service (CoS) priority levels". This is because Santiago discloses that the invention may be used in connection with a networking environment, as stated in paragraph 0058, rather than "a network policer dedicated to a single user" as recited in applicant's claim 1.